**Pre-emptive + Preventive** Placebo P value (n = 66)(n = 33)Cumulative opioid consumption PACU 0.691  $8.12\pm4.14$  $7.76\pm4.53$ 24hr 0.041  $66.70\pm23.01$  $56.45\pm23.35$ 48hr 0.078  $86.82\pm39.65$  $101.36 \pm 35.43$ Cumulative opioid consumption per weight PACU 0.489  $0.16\pm0.08$  $0.15\pm0.08$ 24hr 0.048  $1.14\pm0.45$  $1.34\pm0.46$ 48hr 0.062  $1.74\pm0.73$  $2.03\pm0.70$ 

**Supplementary Table 1.** Cumulative opioid consumption in IV morphine equivalent dose between total acetaminophen group (both pre-emptive and preventive group) and placebo group.

Results are expressed as mean  $\pm$  SD. IV, intravenous; PACU, post-anesthetic care unit.